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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/558,541

02/15/2007

John E. O'Gara

60005US(49991)

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7590

09/15/2011

EDWARDS ANGELL PALMER & DODGE LLP

P.O. BOX 55874

BOSTON, MA 02205

EXAMINER

MOORE, MARGARET G

ART UNIT

PAPER NUMBER

1765

MAIL DATE

DELIVERY MODE

09/15/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/558,541	<b>Applicant(s)</b> O'GARA ET AL.	
	<b>Examiner</b> MARGARET MOORE	<b>Art Unit</b> 1765	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 2 to 52, 106, 107, 182, 183, 194, 195, 246 to 251 is/are pending in the application.
- 5a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 2 to 24, 26 to 36, 52, 248 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

Continuation of Disposition of Claims: Claims withdrawn from consideration are 25, 37 to 51, 106, 107, 182, 183, 194, 195, 246, 247, 249-251.

1. Applicant's election with traverse of Group I, methacrylate species, in the reply filed on 6/22/11 is acknowledged. The traversal is on the ground(s) that the searches would be coextensive and search and examination would not prove to be an undue burden on the Examiner. This is not found persuasive because the Examiner does not agree that a search of Group I would "necessarily result" in the discovery of any of Groups II or III. The searches are not coextensive and, most importantly, the Examiner stresses that search and examination are not the same. Examination of separate, patentably distinct, inventions can be significantly different and the Examiner maintains that search and examination of three different patentably distinct inventions is an undue burden. As noted in the restriction requirement, the Examiner made an effort to examine all claims at once and found it to be an undue burden.

The requirement is still deemed proper and is therefore made FINAL.

2. The Examiner notes that applicants' summary of claims that read on the elected functionality is incorrect, as claim 25 does not read thereon. Currently claims 2 to 24, 26 to 36, 52 and 248 are under consideration.

3. Claim 248 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

This claim contains the same limitations already present in claim 52.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 - 24, 26 - 30, 32, 33, 52 and 248 are rejected under 35 U.S.C. 102(e) as being anticipated by Jiang et al. '168.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Jiang et al. teach a porous inorganic/organic hybrid particle. Such particles meet the requirement of a monolith. While the entire teachings of Jiang et al. are relied upon in this rejection, the Examiner drawn specific attention to paragraph 58. This teaches a method in which silane monomers are reacted in a sol-gel reaction in the presence of a surfactant. The surfactant is removed and the particles are modified by hydrothermal treatment. Specifically see Examples 1 and 2 and Table 1 which uses tetraethoxysilane (meeting claims 14 to 17, 21, 22) and a methacrylated silane meeting claims 19, 24 and 27. The fact that the surfactant is added after an initial polymerization step in Jiang et al. is embraced by the instant claims since Jiang et al. subsequently undergoes further PSG reaction in the presence of the surfactant.

The Examiner notes that claims 2 and 4 to 13 are future intended use limitations that need not be taught by the prior art for anticipation.

The surfactants shown in Example 2 have HLB values of 10.4 and 13.5, meeting claims 32 and 33.

For claim 23 see the claims in Jiang et al. which specifically teach tetramethoxysilane.

7. Claims 2, 4 to 18, 21 to 23, 26 to 30, 32, 33, 52 and 248 are rejected under 35 U.S.C. 102(b) as being anticipated by Jiang et al. '931.

Jiang et al. teaches porous inorganic/organic hybrid particles similar to that found in the Jiang et al. reference supra. See specifically paragraph 29 and Examples 1, 2 and Table 1. This shows particles prepared by a sol-gel process in the presence of a surfactant. While the R<sup>2</sup> groups shown on Table 1 are methyl, ethyl and phenyl and thus would not immediately be considered "a scaffolding functionality capable of chemically interacting" as required in claim 52, the Examiner notes that R<sup>2</sup> is not limited to these groups. See paragraph 12, at least, which teaches that R<sup>2</sup> can contain cyano, diol, amino and nitro groups, as well as ion exchange or embedded polar functionalities. Each of these meet the requirement found in claim 52. Since it is the totality of the teachings relied upon in Jiang et al., the teachings therein are such that one having ordinary skill in the art would have anticipated the claimed monolith.

8. Claims 31 and 34 to 36 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jiang et al. '168 or '931.

While Jiang et al. do not teach these specific surfactants, the Examiner notes that the claims are in product by process format. The claims do not specifically require that these surfactants be used as this is part of the process requirement.

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Please

note MPEP 2113, which addresses the appropriateness of a rejection under 35 USC 102/103 for product by process claims.

In the instant application, the Examiner notes that the final products in both Jiang et al. and the claims, hybrid particles having pore structures resulting from the removal of a surfactant, appear to be inherently the same. It is not clear to the Examiner what difference in the final product the HLB of a surfactant in the claimed process makes. In view of this it is the Examiner's position that the claimed product and that in the prior art will inherently be the same.

9. Claims 2 to 23, 26, 28 to 32, 52 and 248 are rejected under 35 U.S.C. 102(e) as being anticipated by Stein et al.

Stein et al. teach macroporous structures. While the entire teachings therein are relied upon in this rejection, particular attention is directed to column 16, lines 1 and on, in which a hybrid organic/inorganic material is produced from TEOS and vinyl functional silane or TMOS and cyano functional silane. This includes dried latex spheres which are later removed to form pores. On the other hand, see column 13, lines 7 and on, which teaches that a surfactant can be present in the inorganic precursor composition in an effort to adjust pore size. In this manner Stein et al. anticipate the claimed porous monolith.

For claims 29 and on, please see column 13, lines 7 and on. Specifically, the Zhao reference (which is incorporated by reference) teaches polyoxyethylene - polyoxypropylene block copolymers. One specific copolymer, Pluronic L121, has an HLB within the range of claim 32.

10. Claims 34 to 36 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stein et al.

While Stein et al. do not teach these specific surfactants, the Examiner notes that the claims are in product by process format. The claims do not specifically require that these surfactants be used as this is part of the process requirement.

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Please note MPEP 2113, which addresses the appropriateness of a rejection under 35 USC 102/103 for product by process claims.

In the instant application, the Examiner notes that the final products in both Stein et al. and the claims, hybrid particles having pore structures resulting from the removal of a surfactant, appear to be inherently the same. It is not clear to the Examiner what difference in the final product the HLB of a surfactant in the claimed process makes. In view of this it is the Examiner's position that the claimed product and that in the prior art will inherently be the same.

11. Claims 2 - 24, 26 - 30, 32, 33, 52 and 248 are rejected under 35 U.S.C. 102(e) as being anticipated by Walter et al.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Walter et al. teach porous inorganic/organic hybrid monoliths. While the entire teachings are relied upon in making this rejection, please see paragraphs 114 and on. This teaches a method of making a porous monolith as claimed.

12. Claims 31 and 34 to 36 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Walter et al.



While Walter et al. do not teach these specific surfactants, the Examiner notes that the claims are in product by process format. The claims do not specifically require that these surfactants be used as this is part of the process requirement.

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Please note MPEP 2113, which addresses the appropriateness of a rejection under 35 USC 102/103 for product by process claims.

In the instant application, the Examiner notes that the final products in both Walter et al. and the claims, hybrid particles having pore structures resulting from the removal of a surfactant, appear to be inherently the same. It is not clear to the Examiner what difference in the final product the HLB of a surfactant in the claimed process makes. In view of this it is the Examiner's position that the claimed product and that in the prior art will inherently be the same.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARGARET MOORE whose telephone number is (571)272-1090. The examiner can normally be reached on Monday, Wednesday and Friday, 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Margaret G. Moore/  
Primary Examiner, Art Unit 1765

Mgm  
9/9/11